

Patent Claims

1. Meltdown device for the production of high-UV transmittive glass types, comprising
 - 1.1 a meltdown tank (1) for a melt bath
 - 1.2 a feed opening (11) for the feeding or laying-in of highly pure raw material for the melt bath
 - 1.3 a draw-off opening (5) for the drawing-off of material melted in the melt tank
 - 1.4 a cover (9) arranged above the melt tank (1), in which
 - 1.5 the feed opening (11) on the melt tank (1) is arranged above the melt bath in the zone of the cover (9)
 - 1.6 the draw-off opening (5) is arranged in the zone of the bottom of the melt tank
 - 1.7 a heating arrangement,
characterized in that
 - 1.8 the heating arrangement comprises heating elements, in particular electrodes (17.1, 17.2, 17.3, 17.4) which are arranged on the melt tank in the zone of the melt bath as well as
 - 1.9 an agitating arrangement (30) for the stirring of the melt bath and uniform intermixing and sub-mixing of material into the melt from the mixture lying on the melt surface.
2. Meltdown device according to claim 1, characterized in that the melt tank has a circular external geometry.
3. Meltdown device according to claim 2, characterized in that the agitating arrangement comprises an agitator (30) with a first section (30.1), second section (30.2) and a third section (30.3), in which the first section is arranged centrally to the melt tank, the agitator (or stirrer) is continued in a second section closely below the melt surface turned through a 90° angle up to two-thirds of the outer radius, upon which the third section follows, which again is continued downward turned through a 90° angle.
4. Meltdown device according to ~~one of claims 1 to 3,~~ ^{claim 1} characterized in that temperature measuring devices are arranged in the cover and/or bottom.

5. Process for the production of glasses highly transmissive in the UV range by means of a melting process in which the melting process is carried out in a melt tank (1), in which there is present a glass melt with a melt surface (15), comprising the following steps:
- 5.1 a well-homogenized mixture of highly pure glass raw materials of the highly transmissive glasses to be melted is steadily fed through a feed opening (11) of the melt tank, in such manner that a closed mixture cover arises on the melt surface (15)
 - 5.2 energy is supplied to the glass melt, in which operation the energy feed occurs always underneath the melt surface (15)
 - 5.3 to the space above the melt surface and to the melt surface itself no energy is supplied
 - 5.4 the glass melt is agitated and
 - 5.5 material from the mixture resting on the melt surface is uniformly intermixed and sub-mixed into the melt.
6. Process according to claim 5, characterized in that the highly transmissive glass types are Flint glass types with an Abbe coefficient of $v_d \leq 50$.
7. Process according to ~~one of claims 5 to 6~~ ^{claim 5}, characterized in that the feeding-in of the highly pure glass raw materials occurs either in portions or continuously.
8. Process according to ~~one of claims 5 to 7~~ ^{claim 5}, characterized in that the temperature in the melt bath lies in the range of 1100° to 1380°C, especially preferably in the range of 1280° to 1380°C.
9. Process according to ~~one of claims 5 to 8~~ ^{claims 5}, characterized in that the space above the melt surface has a temperature in the range of 500 to 700°C.
10. Process according to ~~one of claims 5 to 9~~ ^{claim 5}, characterized in that the stirring occurs at a rotation rate in the range of 30 to 100 rpm.
11. Use of the glass types produced by the process according to one of ~~claims 5 to 10~~ ^{claim 5} for r-LCD for lens systems, for glass fibers and fiber reinforcers.

Add A2